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EXAMINER	
PATEL, MANGLESH M	
ART UNIT	**PAPER NUMBER**
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/817,013	ELZA ET AL.	
	Examiner	Art Unit	
	Manglesh M. Patel	2178	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 May 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-65* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-65* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *July 20, 2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This is a **FINAL** Office Action. This action is responsive to the Amendment filed on 5/21/2007.

2. Claims 1-65 are pending, with claims 1, 13, 26, 30, 37, and 53 being the independent claims.

3. Note: The new examiner assigned to this application is: Manglesh Patel

Information Disclosure Statement

4. The IDS submitted on July 20, 2006 has been reconsidered in light of the W3C references, which were not considered by the previous examiner.

Withdrawn Objections

5. The Objection to the specification associated with the hyperlink and of figure 9 has been withdrawn in light of the amendment.

6. The objection to the drawings has been withdrawn in light of the amendment.

Withdrawn Rejections

7. The 35 U.S.C. 112 first paragraph rejection of claim 50 has been withdrawn.

8. The 35 U.S.C. 112 second paragraph rejection of claims 3, 6, 7, 14-17, 40, 47, 53, 60, and 62 have been withdrawn.

The Specification

9. The amendment filed 5/21/2007 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: "At block 1068, the routine can generate a **post-application** event that indicates that a mutation was applied" (see amended paragraph 129), previously the application discusses nothing of a post-application event. Furthermore applicant provides no indication as to where in the specification such post-application event is supported. Applicant is required to cancel the new matter in the reply to this Office Action.

Claims Rejection – 35 U.S.C. 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 1-24, 26-30, 32, 34-36, and 53-65 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Shi, et al. (U.S. Patent 5,623,659, issued April 22, 1997) [hereinafter "Shi"], and further in view of Bray, et al. (U.S. Patent 6,529,905 B1, issued March 4, 2003) [hereinafter "Bray"], and further in view of Shoens, et al. (U.S. Patent 4,965,719, issued October 23, 1990) [hereinafter "Shoens"].

Regarding **independent claim 1**, Shi in view of Bray and further in view of Shoens teaches:

> *A method in a client computing device for enabling authors to work on a hierarchical document, comprising:*
>
> *retrieving a local copy of the hierarchical document from a server computing device;*
>
> *receiving an indication of a requested mutation from a user;*
>
> *sending a message to the server computing device containing the requested mutation;*
>
> *when the requested mutation is successfully applied by the server computing device to the hierarchical document, receiving a message from the server computing device acknowledging a successful mutation to the hierarchical document; and*
>
> *when the requested mutation is not successfully applied by the server computing device to the hierarchical document, receiving a message from the server computing device containing an indication to revert the local copy of the hierarchical document to a current form of the hierarchical document on the server computing device.*

(It is noted that the claim specifies a standard revision protocol of "checking out" all or part of a document or code, and attempting to "check in" the revised document or code. See, Shi, col. 1, lines 9-47, teaching checking out a part of a document for purposes of preparing revisions. See also, Shi, col. 1, lines 9-47, teaching submitting revisions to a document as the "indication of a requested mutation. And see, Shi, col. 4, lines 38-50, teaching the "check-in" command.

Shi does not expressly teach a "hierarchical document."

Bray teaches a structured authoring system for editing a hierarchical data structure in a multi-user environment. See, Bray, claim 1.

Shi and Bray are combinable in that they both involve the same art of document or code manipulation in a multi-user environment.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have combined to teachings of Shi and Bray.

The suggestion or motivation for the combination is that Bray merely teaches a different type of data structure, whereas Shi is not limited to any particular data structure. Shi teaches a compatible methodology for multi-user editing of a document, whereas Bray merely teaches that the multi-user editing may be performed with a particular locking structure on a hierarchical document.

The combination of Shi and Bray does not expressly teach a message system protocol to indicate successful or failed revision of the code.

Shoens teaches a system of document or code revision to hierarchical documents involving messaging.

See, Shoens, col. 1, line 19 through col. 2, line 14, teaching that it was known by one of ordinary skill in the art at the time of the invention to send messages indicating changes to a document or code.

Specifically, see, Shoens, col. 2, lines 5-14, teaching notification of a successful revision to other holders of locks on the same block. Shoens doe not expressly teach that the requesting user is notified of a successful or failed revision, but it would have been obvious to one of ordinary skill in the art to give a user such a notification.

Shi and Bray are combinable with Shoens in that they all involve the same art of enabling multiple user modifications of documents or code.

It would have been obvious to one of ordinary skill in the art a the time of the invention to combine the teachings of Shi and Shoens.

The suggestion or motivation for the combination is that Shi teaches a message system connected with the granting of lock permissions (see, Shi, col. 4, line 18 through col. 9, line 64, teaching the use of "notes") Bray teaches the use of hierarchical document, and Shoens teaches the use of messages relating to revisions. Each teaching is an obvious and complementary extension to the teachings of the others. In addition, Shoens, like Bray, teaches the use of hierarchical documents. See, Shoens, col. 8, lines 48-51, teaching that the invention may be applied to a hierarchical document or a relational system.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have combined the teachings of Shi, Bray, and Shoens to result in the invention specified in claim 1.)

Regarding **dependent claim 2**, Shi in view of Bray and further in view of Shoens teaches:

The method of claim 1 wherein an application program is the user.

(See, Bray, col. 1, lines 53-54, teaching that the "user" may be a computer process or an actual person at a workstation.)

Regarding **dependent claim 3**, Shi in view of Bray and further in view of Shoens teaches:

The method of claim 1 wherein an author is using an application program that accesses the hierarchical document.

(See, Shi, col. 1, lines 16-21, teaching an author using the application program of CAD/CAM.)

Regarding **dependent claim 4**, Shi in view of Bray and further in view of Shoens teaches:

The method of claim 3 wherein the author makes a change to the document using the application program and further wherein the indication of a requested mutation relates to the change.

(See also, Shi, col. 1, lines 9-47, teaching submitting revisions to a document as the "indication of a requested mutation. And see, Shi, col. 4, lines 38-50, teaching the "check-in" command.)

Regarding **dependent claim 5**, Shi in view of Bray and further in view of Shoens teaches:

The method of claim 1 wherein messages are represented in XML.

(See, Bray, col. 43-50, teaching the use of XML as a standard for the mutation message.)

Regarding **dependent claim 6**, Shi in view of Bray and further in view of Shoens teaches:

The method of claim 5 wherein the message is contained in a frame.

(It is noted that upon examination of the claims and specification, the Examiner believes Applicants intended the term "frame" to mean "the part of an on-screen window (title bar and other elements) that is controlled by the operating system rather tan by the application running in the window." See, "Microsoft Computer Dictionary, fifth edition, Microsoft Press, 2002, definition 6 of "frame."

Shi, Bray, and Shoens teach the invention of claim 5, but do not expressly teach wherein the message is contained in a frame.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have used a

frame, containing the message from the operating system controlling the multi-user editing access, to communicate with a user creating revisions of a document or code on a local computer using an application, such as CAD/CAM or a code or document editing program.

The suggestion or motivation for such modification is the obvious and beneficial purpose that frames were known by one of ordinary skill in the art at the time of the invention to be used for precisely this purpose, to communicate from the operating system to an application running on a computer.)

Regarding **dependent claim 7**, Shi in view of Bray and further in view of Shoens teaches:

The method of claim 6 wherein the frame comprises multiple messages.

(She, Bray, and Shoens teach the invention of claim 6, with the obvious modification, but do not expressly teach multiple messages.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include multiple messages in a frame for the obvious and beneficial purpose of concisely communicating with a user when more that one message is to be directed to that user.)

Regarding **dependent claim 8**, Shi in view of Bray and further in view of Shoens teaches:

The method of claim 5 wherein when the message from the server computing device is received, the message contains no nodes that the author is not privileged to read.

(It would have been obvious to one of ordinary skill in the art to limit the message to an author to exclude nodes that the author is not privileged to read for the obvious and beneficial purpose of keeping the author from reading any nodes that he or she is not privileged to read.)

Regarding **dependent claim 9**, Shi in view of Bray and further in view of Shoens teaches:

The method of claim 1 wherein the requested mutation is not successfully applied when the user is not privileged to make the requested mutation.

(It would have been obvious to one of ordinary skill in the art at the time of the invention to not modify a document or code by someone who is not privileged to make the modification for the obvious and beneficial purpose of not permitting unauthorized persons from modifying the document or code.)

Regarding **dependent claim 10**, Shi in view of Bray and further in view of Shoens teaches:

The method of claim 1 wherein the requested mutation is not successfully applied when the requested mutation conflicts with a mutation previously made to the hierarchical document on the server computing device.

(See, Shi, col. 5, lines 48-56, teaching that the system ensures that conflicting changes are not made.)

Regarding **dependent claim 11**, Shi in view of Bray and further in view of Shoens teaches:

The method of claim 1 wherein the message containing an indication to revert the document comprises sufficient information to determine the current form of the hierarchical document on the server computing device.

(It would have been obvious to one of ordinary skill in the art at the time of the invention to refer to a current version of a document following an unsuccessful modification for the obvious and beneficial purpose of ensuring that the user is provided with a current version of the code or document for the user's editing or modification.)

Regarding **dependent claim 12**, Shi in view of Bray and further in view of Shoens teaches:

The method of claim 1 wherein the message acknowledging the mutation includes additional mutations to be applied to the local copy of the hierarchical document.

(See, Shoens, col. 2, lines 5-14, teaching that users are notified of changes to a block of document or code. It would have been obvious to one of ordinary skill in the art to modify the teachings of Shoens to include additional message along the lines of those to the other users notifying a user who has successfully modified a document or code that other modifications have been successfully applied, for the obvious and beneficial purpose of keeping the code in use by the editors in as current of a version as possible.)

Regarding **independent claim 13**, Shi in view of Bray and further in view of Shoens teaches:

A system in a client computing device for enabling authors to work on a hierarchical document, comprising:

a component that retrieves from a server computing device the hierarchical document and makes a local copy of the retrieved hierarchical document;

a component that receives from a user an indication of a requested mutation to the local copy of the hierarchical document;

a component that sends to the server computing device a message containing the requested

mutation; and

a component that receives from the server computing device a message indicating whether the requested mutation was successfully applied to the hierarchical document.

(Claim 13 incorporates substantially similar subject matter as claimed in claim 1 and is rejected along the same rationale.)

Regarding **dependent claim 14**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 13 wherein when the requested mutation was not successfully applied, the message received from the server contains information corresponding to a current form of the hierarchical document sufficient to mutate the local copy to reflect the current form of the hierarchical document on the server computing device.

(Claim 14 incorporates substantially similar subject matter as claimed in claim 11 and is rejected along the same rationale.)

Regarding **dependent claim 15**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 13 wherein the message from the server computing device arrives in a frame.

(Claim 15 incorporates substantially similar subject matter as claimed in claim 6 and is rejected along the same rationale.)

Regarding **dependent claim 16**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 15 wherein the frame comprises multiple messages.

(Claim 16 incorporates substantially similar subject matter as claimed in claim 7 and is rejected along the same rationale.)

Regarding **dependent claim 17**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 15 wherein the frame has an indication of a first message identifier and a last message identifier.

(Claim 17 incorporates substantially similar subject matter as claimed in claim 6 and, in further view of the following is rejected along the same rationale. See, Shi, col. 9, lines 21-32, teaching time stamping the check-in of modifications. It would have been obvious to one of ordinary skill in the art a the time of the invention to modify the teachings of Shi

to include in the message an indication of a first and last message, for the obvious and beneficial purpose of communicating to a user the chronological order of the modifications.)

Regarding **dependent claim 18**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 17 wherein the component that receives the message from the server determines whether a message was missed.

(Claim 18 incorporates substantially similar subject matter as claimed in claims 17 and 30 and, in further view of the following is rejected along the same rationale. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the time stamp and order of the messages to determine if a message was missing for the obvious and beneficial purpose of ensuring that a user was provided with accurate information regarding the modification of the document or code.)

Regarding **dependent claim 19**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 18 wherein a message is missed when the first message identifier exceeds, by more than a predetermined number, an identifier of a last message previously received from the server computing device.

(The Examiner reads this claim as specifying looking as a sequential listing of messages and determining whether any of the sequential listings are missing, e.g.: messages 1, 2, 3, and 5, would obviously be missing message 4. It would have been obvious to one of ordinary skill in the art at the time of the invention to examine a sequential listing of message to determine whether a message was missing for the obvious and beneficial purpose of ensuring that all messages are accounted for.)

Regarding **dependent claim 20**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 19 wherein the predetermined number is one.

(Claim 20 incorporates substantially similar subject matter as claimed in claim 19 and, in further view of the following is rejected along the same rationale. It would have been obvious to one of ordinary skill in the art a the time of the invention that if one number in a sequence is missing, that a message is missing.)

Regarding **dependent claim 21**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 13 including a component for determining whether a DDOM fragment can be

used to handle the requested mutation.

(It is noted that a DDOM fragment is defined in the specification as follows: "DDOM fragments are subtrees that are under the client's control and are not yet attached to the master document. When the client performs mutation operations on a DDOM fragment, the client does not need to interact with the server. Clients may begin interacting with the server in relation to mutation operations on a DDOM fragment after the fragment is attached to the document. The DDOM client may use DDOM fragments to assemble a number of nodes and mutation operations before forwarding the fragments and operations to the server." See, disclosure, paragraph [0072].

It is further noted that a DDOM is a

The Examiner reads this claim as specifying that the user may modify a sub-tree of a document in the user's application prior to submitting the modification to the server. It would have been obvious to one of ordinary skill in the art at the time of the invention that the working copy of a document or code may be modified by the user prior to being "checked-in" or "committed" to the server version, including the use of a DDOM fragment or other subtree data structure for the purpose of editing.)

Regarding **dependent claim 22**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 21 wherein the DDOM fragment can be used before a node is added to the hierarchical document.

(Claim 22 incorporates substantially similar subject matter as claimed in claim 21 and is rejected along the same rationale.)

Regarding **dependent claim 23**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 21 wherein a node is added to the DDOM fragment before the DDOM fragment is added to the hierarchical document.

(Claim 23 incorporates substantially similar subject matter as claimed in claim 21 and is rejected along the same rationale.)

Regarding **dependent claim 24**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 21 wherein a mutation is made in relation to the node.

(Claim 24 incorporates substantially similar subject matter as claimed in claim 21 and is rejected along the same rationale.)

Regarding **independent claim 26**, Shi in view of Bray and further in view of Shoens teaches:

A method in a server computing device for enabling authors to work on a hierarchical document, comprising:

for each author, providing to a client computing device a copy of the hierarchical document;

receiving from the client computing device an indication of a mutation request;

attempting to apply the received mutation request to the hierarchical document;

when the mutation cannot be applied to the hierarchical document, sending to the client computing device a message containing an indication to revert the client copy of the hierarchical document to a current form of the hierarchical document; and

when the mutation can be applied to the hierarchical document, sending to the client computing device a message containing an indication of an applied mutation.

(Claim 26 incorporates substantially similar subject matter as claimed in claim 13 and is rejected along the same rationale.)

Regarding **dependent claim 27**, Shi in view of Bray and further in view of Shoens teaches:

The method of claim 26 wherein the indication of the applied mutation is sent as an answer to the client computing device.

(Claim 27 incorporates substantially similar subject matter as claimed in claim 26 and, in further view of the following, is rejected along the same rationale. The "answer" is read in its broadest reasonable interpretation as being the "message" specified in claim 26.)

Regarding **dependent claim 28**, Shi in view of Bray and further in view of Shoens teaches:

The method of claim 26 wherein the indication of the applied mutation is sent as a broadcast message to a second client computing device having a copy of the hierarchical document.

(See, Shoens, col. 2, lines 5-14, teaching broadcasting the indication of applied mutations to other client computers.)

Regarding **dependent claim 29**, Shi in view of Bray and further in view of Shoens teaches:

The method of claim 28 wherein when the broadcast message is received by the second client computing device after the second client computing device has sent a requested mutation message but

before the second client computing device receives an answer, the mutation indicated in the broadcast message is applied to the client copy of the hierarchical document.

(Claim 29 incorporates substantially similar subject matter as claimed in claim 28 and, in further view of the following, is rejected along the same rationale. See, Shoens, col. 1, line 19 through col. 2, lie 51, teaching that the modifications operate on a hierarchical ordered basis. It would have been obvious to one of ordinary skill in the art a the time of the invention that the ordered sequential invention of Shoens could result in a first user committing changes to the system followed by a second user, and followed by the first user again. In such an obvious fact situation, the second user would receive a "mutation" broadcast message about the first user after sending a "mutation" request.)

Regarding **independent claim 30**, Shi in view of Bray and further in view of Shoens teaches:

A method in a distributed computer system for sharing a hierarchical document, comprising:

receiving at a server computer system a hierarchical document from a document source client computer system;

distributing to a client computer system other than the document source client computer system the hierarchical document;

receiving from a client computer system a mutation request to be applied to the hierarchical document;

sending to the client computer system from which the request was received a response message containing an answer; and

sending to a connected client computer system other than the client computer system from which the mutation request was received a broadcast message.

(Claim 30 incorporates substantially similar subject matter as claimed in claims 27 and 28 and is rejected along the same rationale.)

Regarding **dependent claim 32**, Shi in view of Bray and further in view of Shoens teaches:

The method of claim 30 wherein the mutation request is received from the document source computer system.

(Claim 32 incorporates substantially similar subject matter as claimed in claim 27 and is rejected along the same rationale.)

Regarding **dependent claim 34**, Shi in view of Bray and further in view of Shoens teaches:

The method of claim 30 wherein the mutation request is to delete a node.

(See, Shi, col. 8, lines 1-22, teaching deletion of a node.)

Regarding **dependent claim 35**, Shi in view of Bray and further in view of Shoens teaches:

The method of claim 34 wherein the node is placed into a pool of deleted nodes.

(Claim 35 incorporates substantially similar subject matter as claimed in claim 34 and, in further view of the following, is rejected along the same rationale. It would have been obvious to one of ordinary skill in the art at the time of the invention to have placed deleted material into a "pool of deleted nodes" such method as was commonly known to one of ordinary skill in the art at the time of the invention as a "trash" or "garbage" structure, for the obvious and beneficial purpose of being able to recover the deleted material if necessary.)

Regarding **dependent claim 36**, Shi in view of Bray and further in view of Shoens teaches:

The method of claim 30 wherein the pool is periodically cleared.

(Claim 36 incorporates substantially similar subject matter as claimed in claim 35 and, in further view of the following, is rejected along the same rationale. It would have been obvious to one of ordinary skill in the art at the time of the invention that a "trash" or "garbage" structure may be periodically emptied, or the data saved within deleted, for the obvious and beneficial purpose of clearing the structure for future use.)

Regarding **independent claim 53**, Shi in view of Bray and further in view of Shoens teaches:

A system for enabling authors to work on a hierarchical document, comprising:

a component that exchanges messages with a client computing device;

a component that loads a hierarchical document; and

a component that receives a message relating to a mutation request from the client computing device, determines whether the mutation request can be applied to the hierarchical document, applies the mutation to the hierarchical document, and sends an indication message of an applied mutation to the client computing device.

(Claim 53 incorporates substantially similar subject matter as claimed in claims 1 and 26 and is rejected along the same rationale.)

Regarding **dependent claim 54**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 53 wherein the indication message of an applied mutation is an answer message to a client that made the mutation request.

(Claim 54 incorporates substantially similar subject matter as claimed in claim 27 and is rejected along the same rationale.)

Regarding **dependent claim 55**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 53 wherein the indication message of an applied mutation is a broadcast message to a client that did not make the mutation request.

(Claim 55 incorporates substantially similar subject matter as claimed in claim 1 and is rejected along the same rationale.)

Regarding **dependent claim 56**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 53 wherein the determining includes receiving an indication from a server-side application that implements business logic.

(Claim 58 incorporates substantially similar subject matter as claimed in claim 1 and, in further consideration of the following, is rejected along the same rationale. Claim 1 teaches the business logic of sending a message if the modification is successfully applied or sending a different message if the modification is not applied.)

Regarding **dependent claim 57**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 53 wherein the determining includes checking a privilege.

(Claim 57 incorporates substantially similar subject matter as claimed in claim 8 and, in further consideration of the following, is rejected along the same rationale. It is inherent in denying a mutation on the basis of privilege of the user that a check of that privilege is made by the server.)

Regarding **dependent claim 58**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 53 wherein the hierarchical document is represented as a tree.

(Claim 58 incorporates substantially similar subject matter as claimed in claim 1 and, in further consideration of the following, is rejected along the same rationale. It would have been obvious to one of ordinary skill in the art at the time the invention was made that a hierarchical document may be represented as a tree, in that a tree is merely a

visualization technique to describe a hierarchical document.)

Regarding **dependent claim 59**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 58 wherein the tree is represented in XML.

(See, Bray, figures 3 and 4, and col. 1, lines 44-50, teaching the use of XML in a tree structure.)

Regarding **dependent claim 60**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 53 wherein a message is represented in XML.

(See, Bray, col. 1, lines 44-50, teaching the use of XML in the system.)

Regarding **dependent claim 61**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 53 wherein a message includes mutations corresponding to multiple nodes.

(Claim 61 incorporates substantially similar subject matter as claimed in claim 35 and is rejected along the same rationale.)

Regarding **dependent claim 62**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 53 wherein a message includes mutations corresponding to a node.

(Claim 62 incorporates substantially similar subject matter as claimed in claim 34 and, in further consideration of the following, is rejected along the same rationale.)

Regarding **dependent claim 63**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 53 wherein the determining includes checking whether a node is in the document.

(Claim 63 incorporates substantially similar subject matter as claimed in claim 34 and, in further consideration of the following, is rejected along the same rationale. It would have been obvious to one of ordinary skill in the art at the time of the invention to check whether a node is in the document before attempting to mutate or modify the node for the obvious and beneficial purpose that the node must be identified as the target of the modification action.)

Regarding **dependent claim 64**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 53 including a component for storing the applied mutation in a log of

mutations.

(Claim 64 incorporates substantially similar subject matter as claimed in claim 53 and, in further consideration of the following, is rejected along the same rationale. It would have been obvious to one of ordinary skill in the art at the time of the invention to store a log of mutations for the obvious and beneficial purpose of enabling users to revert to prior versions for further revisions or for correction of newly discovered problems with the current version.)

Regarding **dependent claim 65**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 64 including a component for creating a view of the hierarchical document based on a snapshot of the hierarchical document and the applied mutation stored in the log of mutations.

(Claim 65 incorporates substantially similar subject matter as claimed in claim 64 and, in further consideration of the following, is rejected along the same rationale. A "snapshot" is read by the Examiner as having been intended by Applicants to refer to a prior version of the document. It would have been obvious to one of ordinary skill in the art at the time of the invention to have stored prior versions, and further, it would have been obvious to one of ordinary skill in the art at the time of the invention to have provided for the user to see the prior versions for the obvious and beneficial purpose of enabling users to revert to prior versions for further revisions or for correction of newly discovered problems with the current version.)

12. Claims 25, 31, 33, and 37-52 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Shi, et al. (U.S. Patent 5,623,659, issued April 22, 1997) [hereinafter "Shi"], and further in view of Bray, et al. (U.S. Patent 6,529,905 B1, issued March 4, 2003) [hereinafter "Bray"], and further in view of Shoens, et al. (U.S. Patent 4,965,719, issued October 23, 1990) [hereinafter "Shoens"] as applied to claims 1-24 above, and further in view of Cramer, et al. (U.S. Patent 5,390,316, Issued February 14, 1995) [hereinafter "Cramer"].

Regarding **dependent claim 25**, Shi in view of Bray and in view of Shoens and further in view of Cramer teaches:

The system of claim 21 wherein the message containing the requested mutation is not sent to the server computing device.

(Shi in view of Bray and further in view of Shoens teaches the invention of claim 21, but does not expressly teach wherein the message containing the requested mutation is not sent to the server computing device.

It is noted that the Examiner reads this claim in its broadest reasonable interpretation as including the situation where a mutation message is sent to another user's computer in a peer-to-peer multi-user environment, as opposed to the server/client multi-user environment.

Cramer teaches a multi-user document or code revision environment wherein messages for document or code modification are exchanged in a peer-to-peer environment. See, Cramer, col. 2, lines 2-39, teaching the peer-to-peer messaging to revise a document.

Shi, Bray, and Shoens are combinable with Cramer in that they all involve the same art of document or code editing in a multi-user environment.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of the references to result in the invention specified in claim 25.

The suggestion or motivation for the combination is that Shi, Bray, and Shoens teach multi-user document modification in a client/server environment, and Cramer teaches an improvement on the prior art involving only peer users.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have combined the teachings of the references to result in the invention specified in claim 25.)

Regarding **dependent claim 31**, Shi in view of Bray and in view of Shoens and further in view of Cramer teaches:

The method of claim 30 wherein the distributing occurs when a client computer system other than the document source client computer system requests the hierarchical document.

(Shi in view of Bray and further in view of Shoens teaches the invention of claim 21, but does not expressly teach wherein the distributing occurs when a client computer system other than the document source client computer system requests the hierarchical document.

It is noted that the Examiner reads this claim in its broadest reasonable interpretation as including the situation where a distribution is sent to another user's computer in a peer-to-peer multi-user environment, as opposed to the server/client multi-user environment.

Cramer teaches a multi-user document or code revision environment wherein messages for document or code modification are exchanged in a peer-to-peer environment. See, Cramer, col. 2, lines 2-39, teaching the peer-to-peer messaging to revise a document.

Shi, Bray, and Shoens are combinable with Cramer in that they all involve the same art of document or code editing in a multi-user environment.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of the references to result in the invention specified in claim 25.

The suggestion or motivation for the combination is that Shi, Bray, and Shoens teach multi-user document modification in a client/server environment, and Cramer teaches an improvement on the prior art involving only peer users.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have combined the teachings of the references to result in the invention specified in claim 25.)

Regarding **dependent claim 33**, Shi in view of Bray and in view of Shoens and further in view of Cramer teaches:

The method of claim 30 wherein the mutation request is received from a client computer system other than the document source computer system.

(Claim 33 incorporates substantially similar subject matter as claimed in claim 25 and is rejected along the same rationale.)

Regarding **independent claim 37**, Shi in view of Bray and in view of Shoens and further in view of Cramer teaches:

A method performed by a computing device for enabling authors to work on a hierarchical document, comprising:

retrieving the hierarchical document from another computing device;

modifying the retrieved hierarchical document;

sending an indication of the modification to the other computing device; and

when the sent modification cannot be applied to the hierarchical document on the other computing device, reverting the hierarchical document to a current form of the hierarchical document on the other computing device.

(It is noted that the Examiner reads this claim in its broadest reasonable interpretation as including the situation in a peer-to-peer multi-user environment, as opposed to the server/client multi-user environment.

Shi in view of Bray and further in view of Shoens teaches modification of a hierarchical document and messaging regarding modifications, but do not expressly teach a peer-to-peer multi-user environment.

Cramer teaches a multi-user document or code revision environment wherein the hierarchical document and messages for document or code modification are exchanged in a peer-to-peer environment. See, Cramer, col. 2, lines 2-39, teaching the peer-to-peer messaging to revise a document.

Shi, Bray, and Shoens are combinable with Cramer in that they all involve the same art of document or code editing in a multi-user environment.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of the references to result in the invention specified in claim 25.

The suggestion or motivation for the combination is that Shi, Bray, and Shoens teach multi-user document modification in a client/server environment, and Cramer teaches an improvement on the prior art involving only peer users.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have combined the teachings of the references to result in the invention specified in claim 25.)

Regarding **dependent claim 38**, Shi in view of Bray and in view of Shoens and further in view of Cramer teaches:

The method of claim 37 wherein the modifying includes adding a node.

(See, Bray, figure 4, and col. 59, line 51 through col. 8, line 12, teaching editing and teaching adding a node by that editing.

Regarding **dependent claim 39**, Shi in view of Bray and in view of Shoens and further in view of Cramer teaches:

The method of claim 37 wherein the modifying includes removing a node.

(See, Bray, col. 8, line 61 through col. 9, line 64, teaching removing or deleting a node.)

Regarding **dependent claim 40**, Shi in view of Bray and in view of Shoens and further in view of Cramer teaches:

The method of claim 37 wherein the modifying includes changing values corresponding to an attribute of a node.

(See, Bray, figure 4, and col. 59, line 51 through col. 9, line 64, teaching editing as modifying a node. It would have been obvious to one of ordinary skill in the art at the time of the invention that editing an XML or other document with attributes included the ability to edit the attributes, for the obvious and beneficial purpose of enabling usual and expected editing capabilities to a user.)

Regarding **dependent claim 41**, Shi in view of Bray and in view of Shoens and further in view of Cramer teaches:

The method of claim 37 wherein the indication is a message comprising a mutation request.

(Claim 41 incorporates substantially similar subject matter as claimed in claim 37 and is rejected along the same rationale.)

Regarding **dependent claim 42**, Shi in view of Bray and in view of Shoens and further in view of Cramer teaches:

The method of claim 41 wherein contents of the message are represented in XML.

(See, Bray, col. 43-50, teaching the use of XML as a standard for the mutation message.)

Regarding **dependent claim 43**, Shi in view of Bray and in view of Shoens and further in view of Cramer teaches:

The method of claim 41 including receiving an indication that the modification was successfully applied when the sent modification is applied on the other computing device.

(Claim 43 incorporates substantially similar subject matter as claimed in claim 41 and, in further view of the following, is rejected along the same rationale. It would have been obvious to one of ordinary skill in the art at the time of the invention to respond to a request for a mutation, or revision, with a message indicating that the mutation was successful for the obvious and beneficial purpose of effective communication between the clients to indicate that the current status of the mutation request.)

Regarding **dependent claim 44**, Shi in view of Bray and in view of Shoens and further in view of Cramer teaches:

The method of claim 43 wherein the indication is a message.

(Claim 44 incorporates substantially similar subject matter as claimed in claim 43 and is rejected along the same rationale.)

Regarding **dependent claim 45**, Shi in view of Bray and in view of Shoens and further in view of Cramer teaches:

The method of claim 44 where contents of the message are represented in XML.

(See, Bray, col. 43-50, teaching the use of XML as a standard for the mutation message.)

Regarding **dependent claim 46**, Shi in view of Bray and in view of Shoens and further in view of Cramer teaches:

The method of claim 37 including receiving an indication of a failure when the sent modification cannot be applied on the other computing device.

(Claim 46 incorporates substantially similar subject matter as claimed in claim 41 and, in further view of the following, is rejected along the same rationale. It would have been obvious to one of ordinary skill in the art at the time of the

invention to respond to a request for a mutation, or revision, with a message indicating that the mutation was not successful for the obvious and beneficial purpose of effective communication between the clients to indicate that the current status of the mutation request.)

Regarding **dependent claim 47**, Shi in view of Bray and in view of Shoens and further in view of Cramer teaches:

The method of claim 46 wherein the indication includes information corresponding to the hierarchical document sufficient to determine the current form of the hierarchical document on the other computing device.

(Claim 47 incorporates substantially similar subject matter as claimed in claim 47 and, in further view of the following, is rejected along the same rationale. It would have been obvious to one of ordinary skill in the art at the time of the invention to respond to an unsuccessful request for a mutation, or revision, with a message indicating that the mutation was not successful and to indicate the current version of the document for the obvious and beneficial purpose of effective communication between the clients to indicate that the current status of the mutation request.)

Regarding **dependent claim 48**, Shi in view of Bray and in view of Shoens and further in view of Cramer teaches:

The method of claim 37 wherein the modifying includes calling a method of an XML document object model.

(Claim 48 incorporates substantially similar subject matter as claimed in claim 37 and, further in view of the following, is rejected along the same rationale. It is noted that a "method," as the term is used in this claim, is read by the Examiner as having been intended by Applicants to refer to a process performed on an object in a object-oriented program, and the term "method" in this claim will be so read for the remainder of this Office Action. See, "Microsoft Computer Dictionary," fifth edition, Microsoft Press, 2002, definition of "method.")

Regarding **dependent claim 49**, Shi in view of Bray and in view of Shoens and further in view of Cramer teaches:

The method of claim 37 wherein the modifying is performed by a user.

(See, Cramer, col. 2, lines 12-15, teaching that the message sender of the modification may be a user.)

Regarding **dependent claim 50**, Shi in view of Bray and in view of Shoens and further in view of Cramer teaches:

The method of claim 49 wherein the user is a client-side application program that implements business logic.

(Claim 50 incorporates substantially similar subject matter as claimed in claim 37 and, further in view of the following, is rejected along the same rationale. Claim 37 teaches the business logic of sending a message if the modification is successfully applied or sending a different message if the modification is not applied.)

Regarding **dependent claim 51**, Shi in view of Bray and in view of Shoens and further in view of Cramer teaches:

The method of claim 49 wherein the user is a human.

(See, Bray, col. 1, lines 53-54, teaching that the "user" may be a computer process or an actual person at a workstation.)

Regarding **dependent claim 52**, Shi in view of Bray and in view of Shoens and further in view of Cramer teaches:

The method of claim 49 wherein the user uses an application program interface of the client component.

(See, Shi, col. 1, lines 16-21, teaching an author using the application program of CAD/CAM. It would have been obvious to one of ordinary skill in the art at the time of the invention that a CAD system inherently includes a program interface.)

It is noted that any citations to specific, pages, columns, lines, or figures in the prior art references and any interpretation of the references should not be considered to be limiting in any way. A reference is relevant for all it contains and may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art. See, MPEP 2123.

Response to Arguments

10. Applicant's arguments filed 5/21/2007 have been fully considered but they are not persuasive.

Applicant Argues: Shi, Bray and Shoens, alone or in combination, do not disclose or suggest sending and receiving messages regarding mutations to hierarchical documents. (see pg 24 paragraph 2)

This too does not correspond to sending and receiving messages regarding mutations to hierarchical documents, because communications for locking purposes are not analogous to communications regarding mutation requests. (see pg 24 paragraph 2)

However, Shoens records in a block from a DASD are certainly not analogous to a document, let alone a hierarchical document, and therefore what Shoens describes does not correspond to sending and receiving messages regarding mutations to hierarchical documents. (see pg 24 paragraph 2)

First Cramer does not disclose or suggest a multi-user environment for document editing. (pg 26, paragraph 3)

However The Examiner Respectfully disagrees: In pg 22 of applicants arguments it states that Bray describes locking of elements in a hierarchical data structure, whereas Shoens teaches access to shared data resources. And Sri teaches that locking which includes editing of objects (see applicants argument pg 21, paragraph 3). Thus the combination teaches sending and receiving messages such as the versioned objects of Shi by multiple users regarding mutations which is the editing of the versioned objects as related to hierarchal documents described by Bray. Furthermore applicant does not consider the combination and attacks the teachings of Cramer individually.

Applicant is reminded:

One **cannot show nonobviousness by attacking references individually** where the rejections are based on combinations of references. In re Keller, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); In re Merck & Co., Inc., 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

It is **not necessary that the references actually suggest**, expressly or in so many words the changes or improvements that applicant has made. The test for combining references is what the references **as a whole would have suggested** to one of ordinary skill in the art. In re Sheckler, 168 USPQ 716 (CCPA 1971); In re McLaughlin 170 USPQ 209 (CCPA 1971); In re Young 159 USPQ 725 (CCPA 1968).

In response to applicant's argument, the test for obviousness is **not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference**; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is **what**

the combined teachings of the references would have suggested to those of ordinary skill in the art. See In re Keller, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Further more as to the reason to combine not being the same as applicant's.

If it is obvious to combine references for one reason it is obvious to combine references for all reasons. In re Graf, 145 USPQ 197 (CCPA 1965); In re Finsterwalder 168 USPQ 530 (USPQ 1970); In re Kronig, 539 F.2d 1300, 190 USPQ 425 (CCPA 1976). In re Dillon, 892 F.2d 1544, 13 USPQ 1337 (1989); In re Dillon 919 F.2d 688, 16 USPQ 1897 Fed. Cir. 1990) (in bane).

Conclusion

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Manglesh M. Patel whose telephone number is (571) 272-5937. The examiner can normally be reached on M, W 6 am-3 pm T, TH 6 am-2pm, Fr 9am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen S. Hong can be reached on (571) 272-4124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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AU 2178
August 1, 2007

STEPHEN HONG
SUPERVISORY PATENT EXAMINER